

## **ENGINEERING EXHIBIT**

### **Digital Low Power Television Station Application for Minor Modification of Licensed Facility** prepared for

**Gray Television Licensee, LLC**  
W14EE-D Algood, TN  
Facility ID 187447  
Ch. 14 15 kW Directional

*Gray Television Licensee, LLC* (“Gray”) is the licensee of digital Low Power Television station W14EE-D, Channel 14, Facility ID 187447, Algood TN. W14EE-D is licensed to operate at 0.2 kW effective radiated power (“ERP”) with a directional antenna (file# 0000178927). *Gray* herein seeks a minor modification Construction Permit to relocate W14EE-D to an adjacent tower structure and to utilize a different directional antenna at increased ERP and antenna height.

The proposed facility will employ a new antenna to be side-mounted on the tower structure associated with FCC Antenna Structure Registration number 1043477, located 0.1 km from the licensed facility. No change to the overall structure height is proposed.

The proposed antenna is a Dielectric model TLP-8H/VP having elliptical polarization. The proposed ERP is 15 kW horizontally polarized and 4.5 kW vertically polarized using a “full service” out of channel emission mask. A plot of the directional antenna’s azimuthal pattern is supplied in Figure 1.

Figure 2 depicts the coverage contour of the proposed facility as well as that of the licensed facility, demonstrating compliance with §73.3572 for a minor change. Since the proposed 51 dBμ contour encompasses that of the licensed facility, no service loss area will be created. Considerable service improvement will result as the population within the 51 dBμ contour increases to 163,437 persons (2010 census), which is 319 percent of the 51,275 persons within the licensed W14EE-D facility’s 51 dBμ contour.

Interference study per OET Bulletin 69<sup>1</sup> shows that the proposal complies with the FCC's interference protection requirements toward all digital television, television translator, LPTV, and Class A stations. FCC processing of this proposal is requested using a 1.0 km cell size and 0.2 km terrain profile increment. The results, summarized in Table 1, show that any new interference does not exceed the FCC's interference limits (0.5 percent to full power and Class A stations, and 2.0 percent to secondary stations) to any facility.

### **Human Exposure to Radiofrequency Electromagnetic Field (Environmental)**

The proposed facility was evaluated for human exposure to RF energy using the procedures outlined in the FCC's OET Bulletin Number 65. Based on OET-65 equation (10) and 25 percent antenna relative field in downward elevations (pattern data shows 25 percent or less relative field at angles 10 to 90 degrees below the antenna), the calculated power density attributable to the proposed facility at locations near the transmitter site at a height of two meters above ground level is  $10.6 \mu\text{W}/\text{cm}^2$ , which is 3.4 percent of the general population / uncontrolled maximum permissible exposure limit. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field. No increase in structure height is proposed.

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<sup>1</sup>FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). This analysis employed the FCC's current "TVStudy" software with the default application processing template settings, 1 km cell size, and 0.2 km terrain increment. Comparisons of various results of this computer program (run on a Mac processor) to the FCC's implementation of TVStudy show excellent correlation.

**Engineering Exhibit**  
**Gray Television Licensee, LLC (W14EE-D)**  
(page 3 of 3)

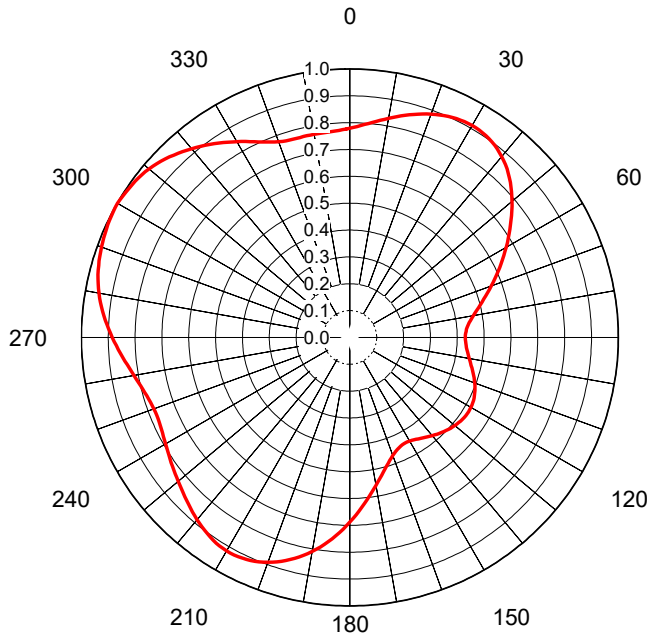


*List of Attachments*

Figure 1	Antenna Azimuthal Pattern
Figure 2	Coverage Contour Comparison
Table 1	TVStudy Analysis of Proposal
Form 2100	Saved Version of Engineering Sections of FCC Form at Time of Upload

**Chesapeake RF Consultants, LLC**

Joseph M. Davis, P.E.	August 31, 2022	
207 Old Dominion Road	Yorktown, VA 23692	703-650-9600



## AZIMUTH PATTERN Horizontal Polarization

Proposal No. **20220419jmd**  
Date **19-Apr-22**  
Call Letters **W14EE-D**  
Channel **14**  
Frequency **473 MHz**  
Antenna Type **TLP-8H/VP**  
Gain **1.72 (2.36dB)**  
Calculated

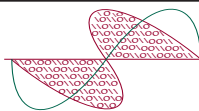
Pattern Number **TLP-H-14 Hpol**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.779	36	0.900	72	0.539	108	0.486	144	0.463	180	0.688	216	0.904	252	0.781	288	0.979
1	0.783	37	0.896	73	0.529	109	0.491	145	0.459	181	0.701	217	0.900	253	0.784	289	0.982
2	0.786	38	0.891	74	0.519	110	0.495	146	0.456	182	0.714	218	0.895	254	0.787	290	0.984
3	0.791	39	0.886	75	0.510	111	0.499	147	0.453	183	0.727	219	0.890	255	0.791	291	0.986
4	0.795	40	0.880	76	0.500	112	0.503	148	0.450	184	0.740	220	0.885	256	0.795	292	0.989
5	0.800	41	0.873	77	0.492	113	0.506	149	0.448	185	0.752	221	0.880	257	0.800	293	0.991
6	0.805	42	0.866	78	0.483	114	0.509	150	0.446	186	0.765	222	0.875	258	0.805	294	0.993
7	0.811	43	0.858	79	0.475	115	0.512	151	0.445	187	0.777	223	0.870	259	0.811	295	0.994
8	0.817	44	0.850	80	0.467	116	0.515	152	0.444	188	0.788	224	0.865	260	0.816	296	0.996
9	0.823	45	0.841	81	0.460	117	0.517	153	0.444	189	0.799	225	0.859	261	0.822	297	0.997
10	0.828	46	0.831	82	0.454	118	0.519	154	0.445	190	0.810	226	0.854	262	0.829	298	0.998
11	0.835	47	0.821	83	0.448	119	0.520	155	0.447	191	0.820	227	0.849	263	0.835	299	0.999
12	0.841	48	0.810	84	0.443	120	0.521	156	0.450	192	0.830	228	0.844	264	0.842	300	1.000
13	0.847	49	0.800	85	0.439	121	0.522	157	0.453	193	0.839	229	0.839	265	0.849	301	0.998
14	0.853	50	0.788	86	0.436	122	0.522	158	0.458	194	0.848	230	0.834	266	0.856	302	0.996
15	0.858	51	0.777	87	0.433	123	0.522	159	0.463	195	0.856	231	0.830	267	0.863	303	0.994
16	0.864	52	0.766	88	0.432	124	0.521	160	0.468	196	0.864	232	0.825	268	0.870	304	0.993
17	0.870	53	0.754	89	0.431	125	0.520	161	0.475	197	0.872	233	0.821	269	0.878	305	0.991
18	0.875	54	0.742	90	0.430	126	0.519	162	0.482	198	0.879	234	0.816	270	0.885	306	0.989
19	0.880	55	0.731	91	0.430	127	0.517	163	0.490	199	0.885	235	0.812	271	0.892	307	0.986
20	0.885	56	0.719	92	0.431	128	0.515	164	0.498	200	0.891	236	0.808	272	0.899	308	0.984
21	0.890	57	0.707	93	0.432	129	0.513	165	0.507	201	0.896	237	0.804	273	0.906	309	0.980
22	0.894	58	0.696	94	0.434	130	0.511	166	0.517	202	0.901	238	0.800	274	0.913	310	0.977
23	0.898	59	0.684	95	0.436	131	0.508	167	0.527	203	0.906	239	0.796	275	0.919	311	0.972
24	0.901	60	0.673	96	0.438	132	0.505	168	0.537	204	0.909	240	0.793	276	0.926	312	0.968
25	0.904	61	0.661	97	0.441	133	0.502	169	0.548	205	0.912	241	0.789	277	0.932	313	0.962
26	0.906	62	0.650	98	0.444	134	0.499	170	0.560	206	0.915	242	0.786	278	0.938	314	0.957
27	0.909	63	0.638	99	0.448	135	0.496	171	0.571	207	0.917	243	0.783	279	0.944	315	0.951
28	0.910	64	0.627	100	0.452	136	0.492	172	0.584	208	0.918	244	0.781	280	0.949	316	0.945
29	0.911	65	0.615	101	0.456	137	0.489	173	0.596	209	0.918	245	0.779	281	0.954	317	0.938
30	0.911	66	0.604	102	0.460	138	0.485	174	0.609	210	0.918	246	0.777	282	0.958	318	0.931
31	0.911	67	0.593	103	0.464	139	0.481	175	0.622	211	0.917	247	0.776	283	0.963	319	0.924
32	0.910	68	0.582	104	0.468	140	0.477	176	0.635	212	0.915	248	0.776	284	0.967	320	0.917
33	0.909	69	0.571	105	0.473	141	0.474	177	0.648	213	0.913	249	0.776	285	0.970	321	0.910
34	0.906	70	0.560	106	0.477	142	0.470	178	0.661	214	0.911	250	0.777	286	0.973	322	0.903
35	0.904	71	0.550	107	0.482	143	0.466	179	0.675	215	0.907	251	0.779	287	0.976	323	0.896

**Figure 1**  
**Antenna Azimuthal Pattern**  
**W14EE-D Algood, TN**  
**Facility ID 187447**  
**Ch. 14 15 kW Directional**

prepared for  
**Gray Television Licensee, LLC**

August, 2022

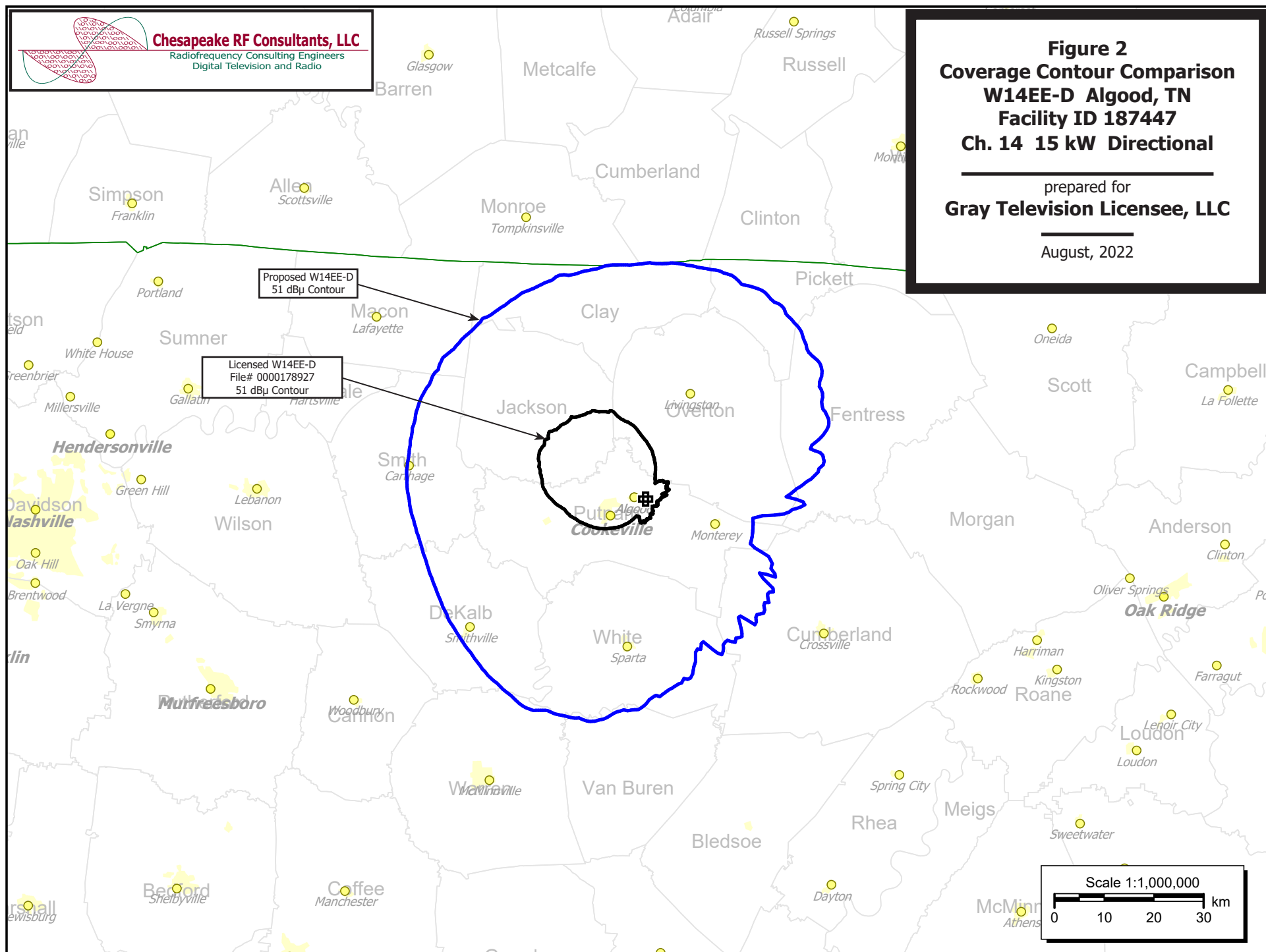


**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

**Figure 2**  
**Coverage Contour Comparison**  
**W14EE-D Algood, TN**  
**Facility ID 187447**  
**Ch. 14 15 kW Directional**

prepared for  
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August, 2022



# **Table 1 W14EE-D TVStudy Analysis of Proposal** (page 1 of 4)



tvstudy v2.2.5 (4uoc83)  
Database: localhost, Study: W14EE-D 1043477 TLP-H prop, Model: Longley-Rice  
Start: 2022.08.31 11:21:22

Study created: 2022.08.31 11:21:22

Study build station data: LMS TV 2022-08-31

Proposal: W14EE-D D14 LD APP ALGOOD, TN  
File number: W14EE-D 1043477 TLP-H  
Facility ID: 187447  
Station data: User record  
Record ID: 4351  
Country: U.S.

Build options:  
Protect pre-transition records not on baseline channel

Search options:  
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WDBB	D14	DT	LIC	BESSEMER, AL	BLANK0000192399	352.7 km
No	WSKC-CD	D14	DC	LIC	ATLANTA, GA	BLANK0000080978	271.8
Yes	WLKY	D14	DT	LIC	LOUISVILLE, KY	BLANK0000196798	244.6
No	WTME-LD	D14	LD	CP	BRUCE, MS	BLANK0000189592	418.6
No	W14EQ-D	D14z	LD	LIC	TUPELO, MS	BLANK0000158096	369.9
No	WHKY-TV	D14	DD	LIC	HICKORY, NC	BLANK0000109333	392.0
No	W14EG-D	D14	LD	LIC	ROBBINSVILLE, ETC, NC	BLANK0000119375	179.8
No	WCMH-TV	D14	DT	LIC	COLUMBUS, OH	BLANK0000129771	469.3
Yes	WDSI-TV	D14	DT	LIC	CHATTANOOGA, TN	BLANK0000059350	115.1
No	W14CX-D	D14	LD	LIC	KNOXVILLE, TN	BLDTL20090729ACQ	133.5
Yes	DWIIW-LP	N14z	TX	APP	NASHVILLE, TN	BLANK0000010767	119.7
Yes	WIIW-LD	D14	LD	CP	NASHVILLE, TN	BLANK0000143395	123.4
Yes	WLFG	D14	DD	LIC	GRUNDY, VA	BLANK0000071597	307.0
No	WAFF	D15	DT	LIC	HUNTSVILLE, AL	BLANK0000111344	193.0
No	WLCU-CD	D15	DC	LIC	CAMPBELLSVILLE, KY	BLANK0000086921	128.1
No	WPBM-CD	D15	DC	LIC	SCOTTSVILLE, KY	BLANK0000087303	92.5
No	WCNT-LP	D15-	LD	CP	CHATTANOOGA, TN	BLANK0000197997	95.9
No	WTNZ	D15	DT	LIC	KNOXVILLE, TN	BLANK0000081278	133.5
No	WTNX-LD	D15	LD	LIC	NASHVILLE, TN	BLANK0000154430	121.6

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D14  
Mask: Full Service  
Latitude: 36 11 32.90 N (NAD83)  
Longitude: 85 25 23.30 W  
Height AMSL: 505.4 m  
HAAT: 0.0 m  
Peak ERP: 15.0 kW  
Antenna: DIE TLP-H 300.0 deg  
Elev Pattn: Generic  
Elec Tilt: 0.50

48.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	9.10 kW	203.1 m	50.1 km
45.0	10.4	151.5	47.7
90.0	2.77	69.6	32.9
135.0	3.66	75.6	35.1
180.0	7.10	121.0	43.6
225.0	11.1	179.7	49.8
270.0	11.7	181.8	50.2
315.0	13.5	189.9	51.3

Database HAAT does not agree with computed HAAT

**Table 1 W14EE-D TV Study Analysis of Proposal**  
(page 2 of 4)



Database HAAT: 0 m    Computed HAAT: 147 m

Distance to Canadian border: 654.0 km

Distance to Mexican border: 1575.0 km

Conditions at FCC monitoring station: Powder Springs GA  
Bearing: 166.0 degrees    Distance: 266.7 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 290.2 degrees    Distance: 1780.7 km

No land mobile station failures found

Study cell size: 1.00 km

Profile point spacing: 0.20 km

Maximum new IX to full-service and Class A: 0.50%  
Maximum new IX to LPTV: 2.00%

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Interference to BLANK0000196798 LIC scenario 1

Desired:	Call WLKY	Chan D14	Svc DT	Status LIC	City, State LOUISVILLE, KY	File Number BLANK0000196798	Distance		
Undesireds:	W14EE-D	D14	LD	APP	ALGOOD, TN	W14EE-D 1043477 TLP-H	244.6 km		
	WCMH-TV	D14	DT	LIC	COLUMBUS, OH	BLANK0000129771	300.0		
	WLFG	D14	DD	LIC	GRUNDY, VA	BLANK0000071597	371.9		
	WYYW-CD	D15	DC	LIC	EVANSVILLE, IN	BLDTA20130109AGB	132.8		
	WLCU-CD	D15	DC	LIC	CAMPBELLSVILLE, KY	BLANK0000086921	121.2		
	WXIX-TV	D15	DT	LIC	NEWPORT, KY	BLANK0000157812	139.1		
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX		
32299.2	1,926,419	31798.9	1,919,727	31605.4	1,914,999	31600.3	1,914,994	0.02	0.00
Undesired				Total IX	Unique IX, before		Unique IX, after		
W14EE-D	D14	LD	APP	13.2	77	5.1	5		
WCMH-TV	D14	DT	LIC	94.9	2,420	49.1	891		
WLFG	D14	DD	LIC	11.1	128	6.0	72		
WYYW-CD	D15	DC	LIC	28.2	694	28.2	694		
WLCU-CD	D15	DC	LIC	26.5	394	26.5	394		
WXIX-TV	D15	DT	LIC	78.7	2,621	37.8	1,148		

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Interference to BLANK0000059350 LIC scenario 1

Desired:	Call WDSI-TV	Chan D14	Svc DT	Status LIC	City, State CHATTANOOGA, TN	File Number BLANK0000059350	Distance
Undesireds:	W14EE-D	D14	LD	APP	ALGOOD, TN	W14EE-D 1043477 TLP-H	115.1 km
	WDBB	D14	DT	LIC	BESSEMER, AL	BLANK0000192399	269.2
	WSKC-CD	D14	DC	LIC	ATLANTA, GA	BLANK0000080978	169.1
	WLKY	D14	DT	LIC	LOUISVILLE, KY	BLANK0000196798	359.5
	WHKY-TV	D14	DD	LIC	HICKORY, NC	BLANK0000109333	379.1
	WLFG	D14	DD	LIC	GRUNDY, VA	BLANK0000071597	345.3
	WAFF	D15	DT	LIC	HUNTSVILLE, AL	BLANK0000111344	121.6
	WTNZ	D15	DT	LIC	KNOXVILLE, TN	BLANK0000081278	154.2
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
20466.0	1,100,384	18061.5	1,038,343	17469.0	1,020,497	17104.3 1,016,704	2.09 0.37
Undesired				Total IX	Unique IX, before	Unique IX, after	
W14EE-D	D14	LD	APP	492.3	6,053	364.7	3,793
WDBB	D14	DT	LIC	501.8	15,566	457.6	13,976
WSKC-CD	D14	DC	LIC	21.1	391	11.1	263
WLKY	D14	DT	LIC	12.9	50	12.9	50
WHKY-TV	D14	DD	LIC	1.0	8	0.0	0
WLFG	D14	DD	LIC	27.9	1,101	19.9	793

**Table 1 W14EE-D TV Study Analysis of Proposal**  
(page 3 of 4)



WAFF D15 DT LIC	55.1	2,137	21.1	675	21.1	675
WTNZ D15 DT LIC	24.8	491	17.9	191	17.9	191

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Interference to BLANK0000010767 APP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	DWIIW-LP	N14z	TX	APP	NASHVILLE, TN	BLANK0000010767	
Undesireds:	W14EE-D	D14	LD	APP	ALGOOD, TN	W14EE-D 1043477 TLP-H	119.7 km
	WTME-LD	D14	LD	LIC	BRUCE, MS	BLANK0000181617	296.4
	WIIW-LD	D14	LD	CP	NASHVILLE, TN	BLANK0000143395	9.6
	WTNX-LD	D15	LD	LIC	NASHVILLE, TN	BLANK0000154430	2.2
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
21.2 28,280		17.2 23,588		10.1 13,231		10.1 13,231	0.00 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
W14EE-D D14 LD APP		1.0 2,035				0.0 0	
WIIW-LD D14 LD CP		7.1 10,357		6.1 8,322		6.1 8,322	
WTNX-LD D15 LD LIC		1.0 2,035		0.0 0		0.0 0	

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Interference to BLANK0000143395 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WIIW-LD	D14	LD	CP	NASHVILLE, TN	BLANK0000143395	
Undesireds:	W14EE-D	D14	LD	APP	ALGOOD, TN	W14EE-D 1043477 TLP-H	123.4 km
	WDBB	D14	DT	LIC	BESSEMER, AL	BLANK0000192399	315.2
	WLKY	D14	DT	LIC	LOUISVILLE, KY	BLANK0000196798	248.6
	WTME-LD	D14	LD	LIC	BRUCE, MS	BLANK0000181617	297.4
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
7871.1 1,309,776		7700.5 1,297,993		7680.4 1,296,608		7662.2 1,295,621	0.24 0.08
Undesired		Total IX		Unique IX, before		Unique IX, after	
W14EE-D D14 LD APP		23.2 1,682				18.2 987	
WDBB D14 DT LIC		3.0 26		3.0 26		3.0 26	
WLKY D14 DT LIC		17.1 1,359		17.1 1,359		12.1 664	

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Interference to BLANK0000071597 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WLFG	D14	DD	LIC	GRUNDY, VA	BLANK0000071597	
Undesireds:	W14EE-D	D14	LD	APP	ALGOOD, TN	W14EE-D 1043477 TLP-H	307.0 km
	WLKY	D14	DT	LIC	LOUISVILLE, KY	BLANK0000196798	371.9
	WRDC	D14	DT	LIC	DURHAM, NC	BLANK0000125503	343.2
	WHKY-TV	D14	DD	LIC	HICKORY, NC	BLANK0000109333	169.8
	WCMH-TV	D14	DT	LIC	COLUMBUS, OH	BLANK0000129771	358.8
	WDSI-TV	D14	DT	LIC	CHATTANOOGA, TN	BLANK0000059350	345.3
	WQCW	D15	DT	LIC	PORTSMOUTH, OH	BLANK0000168240	187.2
	WTNZ	D15	DT	LIC	KNOXVILLE, TN	BLANK0000081278	191.8
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
46552.6 1,617,143		40732.0 1,362,170		40050.1 1,344,661		40050.1 1,344,661	0.00 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
W14EE-D D14 LD APP		2.0 0				0.0 0	
WLKY D14 DT LIC		38.0 846		31.0 446		29.0 446	
WRDC D14 DT LIC		202.8 4,626		90.3 1,593		90.3 1,593	
WHKY-TV D14 DD LIC		516.1 14,915		385.5 11,013		385.5 11,013	
WCMH-TV D14 DT LIC		17.2 459		10.1 235		10.1 235	
WDSI-TV D14 DT LIC		25.2 493		17.1 248		17.1 248	
WQCW D15 DT LIC		12.1 0		11.1 0		11.1 0	
WTNZ D15 DT LIC		4.0 72		3.0 72		3.0 72	

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Interference to proposal scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
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**Table 1 W14EE-D TV Study Analysis of Proposal**  
(page 4 of 4)



Desired:	W14EE-D	D14	LD	APP	ALGOOD, TN	W14EE-D 1043477	TLP-H	
Undesireds:	WLKY	D14	DT	LIC	LOUISVILLE, KY	BLANK0000196798		244.6 km
	WDSI-TV	D14	DT	LIC	CHATTANOOGA, TN	BLANK0000059350		115.1
	W14CX-D	D14	LD	LIC	KNOXVILLE, TN	BLDTL20090729ACQ		133.5
	WIIW-LD	D14	LD	CP	NASHVILLE, TN	BLANK0000143395		123.4
	WLFG	D14	DD	LIC	GRUNDY, VA	BLANK0000071597		307.0
Service area		Terrain-limited			IX-free	Percent IX		
6475.2	175,682	5847.9	164,368		5674.3	161,511	2.97	1.74
Undesired				Total IX		Unique IX	Prcnt Unique IX	
WLKY	D14	DT	LIC	117.1	1,870	63.6	1,405	1.09 0.85
WDSI-TV	D14	DT	LIC	82.7	987	31.2	502	0.53 0.31
W14CX-D	D14	LD	LIC	1.0	0	0.0	0	0.00 0.00
WIIW-LD	D14	LD	CP	45.5	740	16.2	304	0.28 0.18
WLFG	D14	DD	LIC	5.0	0	1.0	0	0.02 0.00

**Channel and  
Facility  
Information**

Section	Question	Response
Facility ID	187447	
State	Tennessee	
City	ALGOOD	
LPD Channel	14	

Antenna Location  
Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1043477
Coordinates (NAD83)	Latitude	36° 11' 32.9" N+
	Longitude	085° 25' 23.3" W-
	Structure Type	LTOWER-Lattice Tower
	Overall Structure Height	74.1 meters
	Support Structure Height	67.7 meters
	Ground Elevation (AMSL)	441.4 meters
Antenna Data	Height of Radiation Center Above Ground Level	64.0 meters
	Height of Radiation Center Above Mean Sea Level	505.4 meters
	Effective Radiated Power	15 kW

Antenna  
Technical Data

Section	Question	Response
Antenna Type	Antenna Type	Directional Custom
	Do you have an Antenna ID?	No
	Antenna ID	
Antenna Manufacturer and Model	Manufacturer:	Dielectric
	Model	TLP-8H/VP
	Rotation	300 degrees
	Electrical Beam Tilt	0.5
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Elliptical
Elevation Radiation Pattern	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	
	Out-of-Channel Emission Mask:	Full Service

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	Value	Degree	Value	Degree	Value	Degree	Value
0	1	90	0.911	180	0.521	270	0.918
10	0.977	100	0.880	190	0.511	280	0.885
20	0.917	110	0.788	200	0.477	290	0.834
30	0.842	120	0.673	210	0.446	300	0.793
40	0.776	130	0.560	220	0.468	310	0.777
50	0.768	140	0.467	230	0.560	320	0.816
60	0.779	150	0.430	240	0.688	330	0.885
70	0.828	160	0.452	250	0.810	340	0.949
80	0.885	170	0.495	260	0.891	350	0.984

Additional Azimuths

Degree	V <sub>A</sub>
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